

Notice of Allowability

Application No.

09/346,470

Examiner

Shulamith H. Shafer, Ph.D.

Applicant(s)

HILL ET AL.

Art Unit

1647

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/16/07.
2. ☒ The allowed claim(s) is/are 79-81, 85, 88-98, now renumbered as 1-15.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Donna M. Ferber on 8 February 2007 and 12 February 2007.

Claim 79 has been amended to read:

An isolated nucleic acid molecule comprising a nucleotide sequence which encodes or is fully complementary to a sequence which encodes an ecdysteroid receptor (EcR) polypeptide that binds ecdysone, wherein the encoded EcR polypeptide has a sequence at least 95% identical to the amino acid sequence set forth in SEQ ID NO:10.

Claim 81 has been amended to read:

The isolated nucleic acid molecule of claim 79, wherein the isolated nucleic acid molecule further encodes an EcR partner protein (USP polypeptide) of a *Myzus persicae* EcR heterodimer, which USP polypeptide has a sequence at least 95% identical to the amino acid sequence set forth in SEQ ID NO:12.

Claim 85 has been amended to read:

An isolated nucleic acid molecule comprising a nucleotide sequence which encodes or is fully complementary to a sequence which encodes an ecdysteroid receptor (EcR) polypeptide that binds ecdysone, when said EcR polypeptide is in association with a USP polypeptide, said EcR polypeptide having a sequence at least 95% identical to the amino acid sequence set forth in SEQ ID NO:10.

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Claim 89 has been amended to read:

The isolated nucleic acid molecule of claim 88, wherein the member of the genus *Myzus* is *Myzus persicae*.

Claim 90 has been amended to read:

The isolated nucleic acid molecule of claim 85, wherein the isolated nucleic acid molecule further encodes an EcR partner protein (USP polypeptide) of the *M. persicae* EcR polypeptide, wherein the USP polypeptide has a sequence at least 95% identical to the amino acid sequence set forth in SEQ ID NO:12.

Claim 93 has been amended to read:

An isolated cell comprising the genetic construct of claim 91.

Claim 94 has been amended to read:

The isolated cell of claim 93, wherein the cell further comprises a nucleic acid molecule encoding an ecdysteroid receptor partner protein (USP polypeptide) which is expressed in said cell.

Claim 95 has been amended to read:

An isolated nucleic acid molecule comprising a nucleotide sequence which encodes a ecdysteroid receptor (EcR) polypeptide, wherein said EcR polypeptide binds ecdysone, and wherein said nucleotide sequence is at least 95% identical to the nucleotide sequence set forth in SEQ ID NO:9 or a sequence fully complementary to said sequence.

Claim 96 has been amended to read:

An isolated nucleic acid molecule comprising a nucleotide sequence which encodes or is fully complementary to a sequence which encodes an ecdysteroid receptor (EcR) polypeptide that binds ecdysone, wherein the encoded EcR polypeptide has a sequence at least 95% identical to the amino acid sequence set forth in SEQ ID

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NO:10, wherein the isolated nucleic acid molecule further encodes an EcR partner protein (USP polypeptide) of a *Myzus persicae* EcR heterodimer, which USP polypeptide is encoded by the nucleic acid sequence set forth in SEQ ID NO:11.

Claim 97 has been amended to read:

An isolated nucleic acid molecule comprising a nucleotide sequence which encodes or is fully complementary to a sequence which encodes an ecdysteroid receptor (EcR) polypeptide that binds ecdysone, wherein the encoded EcR polypeptide has a sequence at least 95% identical to the amino acid sequence set forth in SEQ ID NO:10, wherein the isolated nucleic acid molecule further encodes an EcR partner protein (USP polypeptide) of a *Myzus persicae* EcR heterodimer, wherein the USP polypeptide is identical to that encoded by cDNA present in plasmid pMpUSP (AGAL Accession No. NM99/04568).

Claim 98 has been amended to read:

An isolated nucleic acid molecule comprising a nucleotide sequence which encodes or is fully complementary to a sequence which encodes an ecdysteroid receptor (EcR) polypeptide that binds ecdysone, wherein the encoded EcR polypeptide has a sequence at least 95% identical to the amino acid sequence set forth in SEQ ID NO:10, wherein the isolated nucleic acid molecule further encodes an EcR partner protein (USP polypeptide) of a *Myzus persicae* EcR heterodimer, wherein said polypeptide consists of an amino acid encoded by a cDNA present in the plasmid deposited under AGAL Accession No. NM99/04567.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance:

The amendment to the claims were made for the following reasons:

The claims are directed to nucleic acid molecules encoding polypeptides that are at least 95% identical to the amino acid sequence of SEQ ID NO:10 or nucleic acid

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molecules at least 95% identical to SEQ ID NO:9. The EcR of *Drosophila melanogaster* (Koelle et al. 1991. Cell 67:59-77) has 38.8% homology to the EcR of SEQ ID NO:10. cDNA clones of *Drosophila melanogaster* (accession nos: AI514995, bases 1-501 and AI544194, bases 1-595, Harvey et al. 2001. BDGP/HHMI Drosophila EST Project) have 9.5% homology to SEQ ID NO:9. Therefore, the limitation of "wherein said ecdysteroid receptor polypeptide is not from *Drosophila melanogaster*" is superfluous.

The claims have been amended to read "a nucleotide sequence which encodes or is fully complementary to a sequence which encodes..." in order to exclude unspecified fragments of unspecified lengths.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shulamith H. Shafer, Ph.D. whose telephone number is 571-272-3332. The examiner can normally be reached on Monday through Friday, 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brenda Brumback can be reached on 571-272-0961. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



LORRAINE SPECTOR
PRIMARY EXAMINER